

AMENDMENTS TO THE CLAIMS

1. (currently amended) A multichamber microdialysis device with comprising a plurality of sample chambers in close side by side arrangement, surrounded said sample chambers being defined by circumferential side walls (15), respectively, having a first open end for taking up liquid samples into the sample chamber and a second open end providing an exchange opening, and
at least one a dialysate chamber (8) for taking up a dialysate liquid,
wherein the exchange opening of each sample chambers (7) are chamber in liquid exchange contact to an adjacent dialysate chamber (8) via an exchange opening (10) covered by a semipermeable membrane (9), and wherein the membrane (9) is covered with a separate and distinct semipermeable membrane fixed liquid-tight to the circumferential side walls (15) of the sample chamber (7), in such a manner that to provide a diffusion exchange between the sample chamber (7) and the neighboring dialysate chamber (8,31) through the membrane is only possible for molecules with a molecular weight below the molecular cut-off of the semipermeable membrane (9) when the second end of the sample chamber is placed in contact with the dialysate liquid, and
wherein the a peripheral marginal section of each semipermeable membrane (9) is fixed by clamping clamped between the a front face (20) of the circumferential side wall of the sample chamber and a fixing part (21), wherein each fixing part comprises a ring-shaped portion presenting a circumferential mounting region and an annular wall extending from the perimeter of the ring-shaped portion, the diameter of said annular wall selected to allow frictional engagement of the annular wall with the circumferential side walls of the sample chambers, wherein the outer diameter of a region where the annular wall frictionally engages the circumferential side walls exceeds the sample chamber diameter by not more than 3 mm, the front face (20) of the side wall (15) and the fixing part (21,33) each comprise a comprising an opposing ring-shaped circumferential mounting region (23,24) contacting a peripheral marginal section of the membrane (9); and that wherein one of the mounting regions (23) comprises a circumferential groove (26) and the other circumferential mounting region (24) comprises a protruding rib (27) fitting into the groove (26), by which the membrane (9) is pressed into the groove (26) at its peripheral marginal section which is and clamped between the ring-shaped circumferential mounting regions (23,24) region and the opposing ring-shaped circumferential mounting region.

2. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein the each semipermeable membrane has an exchange surface area (28) of the membrane is smaller less than 50 mm².
3. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein at least a part of the sample chambers (7) are each in liquid exchange contact to a single with only one of a plurality of dialysate chamber (8) chambers via their its exchange openings (10) opening, and each which single dialysate chamber (8) is not in liquid exchange contact to any other with only one sample chamber.
4. (cancelled)
5. (currently amended) A The multichamber microdialysis device according to claim 4 of claim 1, wherein the annular wall thickness (d) of the fixing ring (22), has a wall thickness measured in radial direction, is at most of less than 1.5 mm, preferably at most 1 mm.
6. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein at least a part of the first end of each sample chambers (7) are chamber is in contact to with a common dialysate chamber (31) via their respective exchange openings.
7. (currently amended) A The multichamber microdialysis device according to of claim 6, wherein the membranes (9) of the sample chambers (7) which are in liquid exchange contact to with a common dialysate chamber (31), are fixed by means of a common fixing part (33) comprising a plurality of fixing parts linked together and spaced to allow the simultaneous attachment of the linked fixing parts to the second end of the sample chambers.
8. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein the semipermeable membrane (9) contains comprises cellulose acetate and/or or regenerated cellulose.
9. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein the device comprises at least 8 sample chambers (7).
10. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein the device comprises at least 48 sample chambers (7).

11. (currently amended) A The multichamber microdialysis device according to of claim 1, wherein the device comprises at least 96 sample chambers (7).
12. (currently amended) A The multichamber microdialysis device according to of claim 1, characterized in that it comprises input openings at its upper side arranged with a wherein the distance between the center of the first open end of each sample chamber to the center of the next adjacent sample chamber is about distance of 9 mm.
13. (new) The device of claim 1 wherein a limiting surface of the fixing part is adjacent to an exchange surface and has at least a partial conical shape whereby the diameter of the exchange opening increases towards the dialysate chamber.
14. (new) The device of claim 1 wherein the dialysate chamber is formed by a trough into which the circumferential side walls protrude.
15. (new) The device of claim 14 wherein the interior surface of the fixing part annular wall is fixed to the outer surface of the circumferential side walls of the sample chambers by frictional press fit connection.
16. (new) The multichamber microdialysis device of claim 1 wherein each semipermeable membrane has an exchange surface area of about 20 mm².
17. (new) A multichamber microdialysis device comprising a plurality of sample chambers in close side by side arrangement, said sample chambers being defined by circumferential side walls having a first open end for taking up liquid samples into the sample chamber and a second open end providing an exchange opening, and

a dialysate chamber for taking up a dialysate liquid,

wherein the exchange opening of each of the sample chambers is covered with a separate and distinct semipermeable membrane fixed liquid-tight to the circumferential side walls of the sample chamber in such a manner to provide a diffusion exchange between the sample chamber and the dialysate chamber when the second end of the sample chamber is placed in contact with the dialysate liquid,

wherein a peripheral marginal section of each semipermeable membrane is clamped between a front face of the circumferential side wall of the sample chamber and a fixing part, wherein each

fixing part comprises a ring-shaped portion presenting a circumferential mounting region and an annular wall extending from the perimeter of the ring-shaped portion, and the front face of the side wall comprises an opposing ring-shaped circumferential mounting region, wherein one of the mounting regions comprises a circumferential groove and the other mounting region comprises a protruding rib fitting into the groove by which the membrane is pressed into the groove at its peripheral marginal section and clamped between the ring-shaped circumferential mounting region and the opposing ring-shaped circumferential mounting region, and

wherein a surface of the ring-shaped portion of the fixing part facing the dialysate liquid has at least a partial conical shape whereby the diameter of the exchange opening increases towards the dialysate chamber.